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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,149	04/28/2005	Kiyoharu Higashino	038917.55521US	9137

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CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
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WASHINGTON, DC 20044-4300

EXAMINER
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OMGBA, ESSAMA

ART UNIT	PAPER NUMBER
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3726

MAIL DATE	DELIVERY MODE
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05/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/511,149

Applicant(s)

HIGASHINO ET AL.

Examiner

Essama Omgba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/23/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al. (US Patent 5,992,263) in view of Fevre et al. (US Patent 5,743,150) and Podhorsky et al. (EP 0 823 296).

With regards to claims 1-3, Bleuel et al. discloses a method of assembling steering columns wherein a pair of symmetrically formed projections (5, 5a) on a bracket 7 comprising inner surfaces in a circular arc shape conforming to an outer surface of a column jacket 6 are fitted around the jacket and welded to the outer surface of the jacket, see column 1, lines 66-67 and column 2, lines 1-5. Although Bleuel et al. discloses the clamp projections being welded to the outer surface of the column jacket rather than being crimped thereto, however it is known to secure such brackets to column jackets by either welding or crimping as attested by Fevre et al., see column 5, lines 19-21. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have crimped the bracket projections to the outer surface of the column jacket in the method of Bleuel et al., in light of the teachings of Fevre et al., in order to realize the benefits of using crimping over welding such as not weakening the material of the column jacket through heat from welding. Although Bleuel

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et al./Fevre et al. is silent on the manner the crimping is performed, however it is known to form crimp projections by applying a punch on an outer surface of the members being crimped while supporting an inner surface of the members by a die as attested by Podhorsky et al., see figures 4 and 5. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have applied a punch with an inner surface of the column jacket being supported by die, in crimping the projections in the method of Bleuel et al./Fevre et al., in light of the teachings of Podhorsky et al., as is known in the art. Applicant should note that column jackets with flat sides are old and well known in the art; furthermore it is within the general knowledge to form the column jacket and the projections with complementary mating surfaces prior to crimping.

For claim 4, Applicant should note that it is within the general knowledge of one of ordinary skill in the art to appropriately crimp two members together.

For claim 5, Applicant should note that column jackets formed from mild steel are old and well known in the art.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al./Fevre et al./Podhorsky et al. as applied to claims 1 or 2 above, and further in view of Evans (US Patent 5,573,606).

Bleuel et al./Fevre et al./Podhorsky et al. discloses a method of assembling steering columns as shown above except for the column jacket being formed from an Al-Mn alloy tube. However it is known to make steering columns from an Al-Mn alloy as attested by Evans et al., see column 4, lines 6-15 and 58-60. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to

have formed the column jacket of Bleuel et al./Fevre et al./Podhorsky et al. from an Al-Mn alloy, in light of the teachings of Evans et al., in order to a steering column that is light in weight without sacrificing strength.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Sawada et al. (US Patent 2006/0043720) and Podhorsky et al.

With regards to claims 1-3, Applicant, at pages 1 and 2 of the specification to be known as AAPA, discloses a method of assembling steering wheels wherein column or tilt brackets are fixed to column jackets using fusion welding. Although AAPA does not disclose the brackets being fixed to the column jackets by crimping, however it is known to fix such brackets to column jackets by welding, caulking or clinching as attested by Sawada et al., see paragraph [0004]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have fixed the brackets to the column jackets by clinching in the method of AAPA, in light of the teachings of Sawada et al., in order to achieve the benefits of clinching over welding such as not weakening the material of the column jacket through heat from welding. Although AAPA/Sawada et al. is silent on the manner the crimping is performed, however it is known to form crimp projections by applying a punch on an outer surface of the members being crimped while supporting an inner surface of the members by a die as attested by Podhorsky et al., see figures 4 and 5. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have applied a punch with an inner surface of the column jacket being supported by die, in crimping the

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projections in the method of AAPA/Sawada et al., in light of the teachings of Podhorsky et al., as is known in the art. Applicant should note that column jackets with flat sides are old and well known in the art; furthermore it is within the general knowledge to form the column jacket and the projections with complementary mating surfaces prior to crimping.

For claim 4, Applicant should note that it is within the general knowledge of one of ordinary skill in the art to appropriately crimp two members together.

For claims 5 and 6, Applicant should note that column jackets formed from mild steel are old and well known in the art.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Essama Omgba', is positioned above the printed name.

Essama Omgba  
Primary Examiner  
Art Unit 3726

eo  
May 26, 2007